UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,770	10/07/2003	Edward S. Yeung	224711	8317

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EXAMINER
ROSENBERGER, RICHARD A

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 September 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>24-34</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>24-34</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1.   This application is presented as a continuation of an earlier application

10/070,531. However, it appears that some of what is now claimed in this

application has no support in that earlier application. In particular, the earlier

application appears to lack any support for treatment of the data from the detector

array in which at least two values are selected and combined to produce an output

which is a function of the selected values (claims 29), a peak value is selected and

averaged with another value (instant claims 26 and 31), or averaged with four other

values (instant claims 25 and 30), nor is there disclosure relating to selecting at

least two digital values so as to minimize long time drifts in the pixel signatures

(instant claims 28 and 33). There is no disclosure for averaging data from the pixels

over time (claims 27 and 32), and there no disclosure in the parent relating to

placing the array of photodetectors "non-parallel" to a first plane (instant claim 32).

   There is disclosure in the parent application for "boxcar smoothing"

(reproduced in the instant specification paragraph [0130], page 29, lines 1-5). This

smoothing appears to meet the claimed processor generating a plurality of output

signals "each output signal being a function of at least two digital values" as in

instant claims 24 and 34, but does not disclose the selecting the values as in claims

25, 26, 28-31 and 33. The parent application states that "the method can comprise

selecting one pixel" and that "it is desirable to select only one [pixel] to analyze and

to disregard the others" (both from, as reproduced in the instant specification,

paragraph [0078], page 14, lines 34-37). Thus the parent application, and the

specification in this case, teaches a different method than that now claimed in claims 25, 26, 28-31 and 33.

As there is no support in the earlier application for the claimed subject matter claims 25-33, the effective filing date for the subject matter herein claimed in those claimed is the filing date of this application, 7 October 2003, and not the effective filing date of the parent applications.

It appears that there is disclosure in the original disclosure for claim 24 and 34, so the effective filing date of those two claims is that of the parent application.

2.   Claims 28, 32, anbd 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 28 and 33 set forth that pixels are "selected to minimize long time drifts of the pixel signals to generate a substantially flat baseline of the pixel signals". The only disclosure for this appears to be the claims themselves; there appears to be no teaching of how to select pixels to accomplish this end. Merely stating that something can be done does not adequately disclose how to do it.

There is disclosure in the instant specification that to minimize baseline fluctuation the photon count should be as high as possible, and that "to allow for

baseline drift" the diodes "preferably are only 85-90% saturated" (paragraph [0107], page 21). It does not appear, however, that either one of these techniques can be reasonably termed selecting the values produced by the analog-to-digital converter, as claimed in claims 28 and 33. Nor does it appear that minimizing baseline fluctuation due to random noise, nor allowing for baseline drift, can be reasonable termed techniques to "minimize long term drifts". The first, high photon count, minimizes short-term fluctuations, not long term drifts, and the second, a selected saturation level, allows for baseline drift, but, as disclosed, does not appear to minimize such drifts.

Claim 32 sets forth that the detector array is in a "non-parallel" position relative to the container array. There is not support for this in the specification, and it is not possible to determine for the claims language alone what the first plane is, nor what the "non-parallel" arrangement is, or is intended to be.

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what the claimed "non-parallel" arrangement of this claim is, or

is intended to be.

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102

that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 25-33 are rejected under 35 U.S.C. 102(e) as being anticipated by

Doolen et al (US 6,462,816).

As set forth above, the effective filing date for what is herein claimed is 7

October 2003, which is the effective date of the invention by Applicants unless an

earlier date can be established. The patent date of the Doolen et al patent is 8

October 2002, and its filing date is 21 July 2000, both of which are prior to the

effective filing date, and effective date of invention, of the claimed subject matter in

these claims. Thus Doolen is available for these claims under at least 35 USC

102(e).

Doolen discloses and claims selecting, in a system such as is claimed,

selecting at least two values (Doolen, claim 11, for example), selecting a peak value

and one or four other values to average with the peak value (Doolen, claims 2 and 6, for example), and disclosed and claims the non-parallel placement of the detector array (Doolen, claims 19, for example). Doolen et al discloses and claims the averaging of pixel values over time (Doolen, claim 9, for example) and the selection of values to minimize long time drifts to generate a substantially flat baseline (Doolen, claims 10 and 20).

7.   Claims 24 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilby et al (US 5,900,934).

Gilby et al shows, in particular in figure 3, a system for use in analyzing multiple samples simultaneously by absorption detection, which system comprises: (i) a planar array of multiple containers [34], into each of which can be placed a sample, (ii) a light source [12/12'] for emitting light to pass through the planar array of multiple containers, (iii) a photodetector [42], which is in line with the light source, is positioned in line with and parallel to the planar array of multiple containers, and comprises a linear array of photosensitive elements for receiving light passing through the planar array of multiple containers, wherein, upon illumination of a photosensitive element by light passing through the planar array of multiple containers, a pixel signal corresponding to the light received by the photosensitive element is generated, (iv) an analog to digital converter [column 5, line 54], which converts the pixel signal for each illuminated photosensitive element

to a digital value corresponding to the light received by the respective

photosensitive element, and (v) a processor [21], which receives the digital values

and generates a plurality of output signals corresponding thereto, each output

signal being a function of at least two digital values corresponding to the light

passing substantially concurrently through two photosensitive elements [column 8,

lines 9-11].

8.   The terminal disclaimer filed on 19 September 2004 disclaiming the terminal

portion of any patent granted on this application which would extend beyond the

expiration date of patent 6,788,414 has been reviewed and is accepted. The

terminal disclaimer has been recorded.

9.   The remarks field 7 September 2004 set forth that the claims remaining in

this application are all entitled to the benefit of the filing date of the parent case

and are all wholly supported by the original filing. As set forth above, this does not

appear to be the case for claims 25-33 currently pending, which appear to include

material that is not fully disclosed in the parent case, although it does appear to be

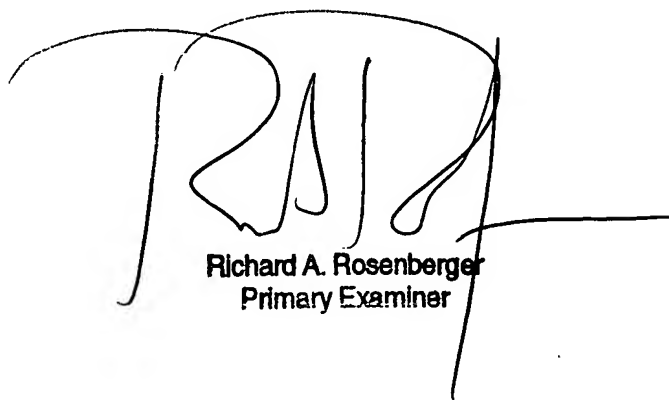correct for claims 24 and 34.

10.   Any inquiry concerning this communication or earlier communications from
the examiner should be directed to Richard A Rosenberger whose telephone number
is (571) 272-2428. The examiner can normally be reached on Monday through
Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard A. Rosenberger
Primary Examiner

R. A. Rosenberger
12 November 2004